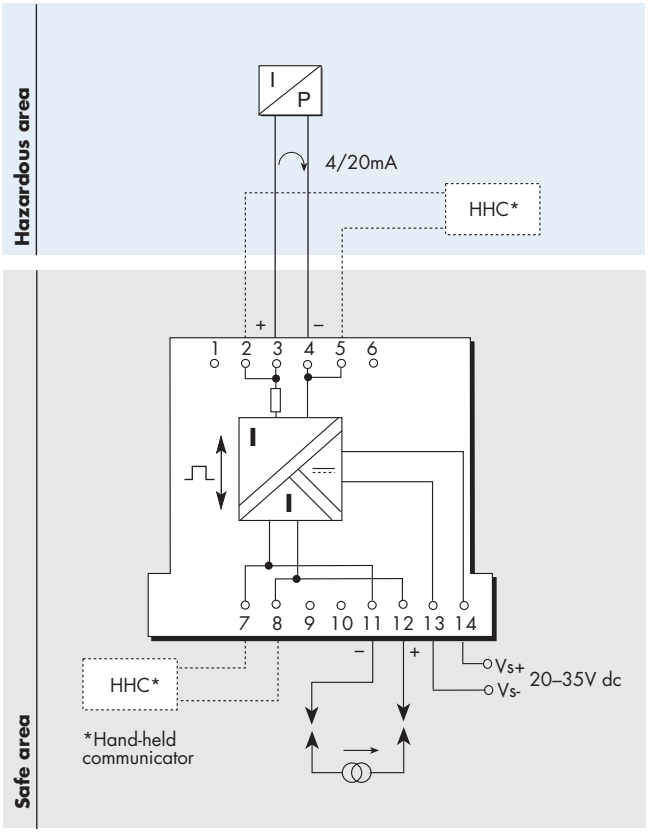
MTL4046S
ISOLATING DRIVER
for HART® valve positioners with open-circuit detection

CE

The MTL4046S accepts a 4/20mA floating signal from a safe-area controller to drive a current/pressure converter (or any other load up to 710Ω) in a hazardous area. For HART valve positioners, the module also permits bi-directional transmission of digital communication signals so that the device can be interrogated either from the operator station or by a hand-held communicator (HHC). Process controllers with a readback facility can detect open circuits in the field wiring: if these occur, the current taken into the terminals drops to a preset level. The reduced maximum open-circuit voltage permits the use of longer field lines compared to MTL4046C.



SPECIFICATION

See also common specification, cable parameters and approvals

Number of channels
One
Location of I/P converter
Zone 0, IIC, T4–6 hazardous area if suitably certified
Div. 1, Group A, hazardous location
Working range
4 to 20mA
Digital signal bandwidth
500Hz to 10kHz
Maximum load resistance
710Ω (17.4V at 20mA)
Output resistance
>1MΩ
Under/over range capability
Under range = 1.0mA
Over range = 26.0mA (load ≤460Ω)
Input and output circuit ripple
<40μA peak-to-peak
Transfer accuracy at 20°C
Better than 20μA
Input characteristics
<4.0V with the field wiring intact
<0.9mA with the field wiring open- or short-circuit
Response time
Settles within 200μA of final value within 100ms
Temperature drift
<1.0μA/°C
LED indicator
Green: one provided for power indication
Power requirement, Vs
58mA at 24V dc
70mA at 20V dc
40mA at 35V dc
Power dissipation within unit
1.2W typical at 24V with 20mA loop current
1.4W worst case
Isolation
250V ac between safe- and hazardous-area circuits
Input circuit is floating
Safety description
22V, 220Ω, 100mA, U_m = 250V rms or dc

Terminal	Function
2	Optional HHC connection +ve
3	Output +ve
4	Output –ve
5	Optional HHC connection –ve
7	Optional HHC connection –ve
8	Optional HHC connection +ve
11	Input –ve
12	Input +ve
13	Supply –ve
14	Supply +ve

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